Figure 1
(prior art)

Hidden Markov Models for Profile Alignment

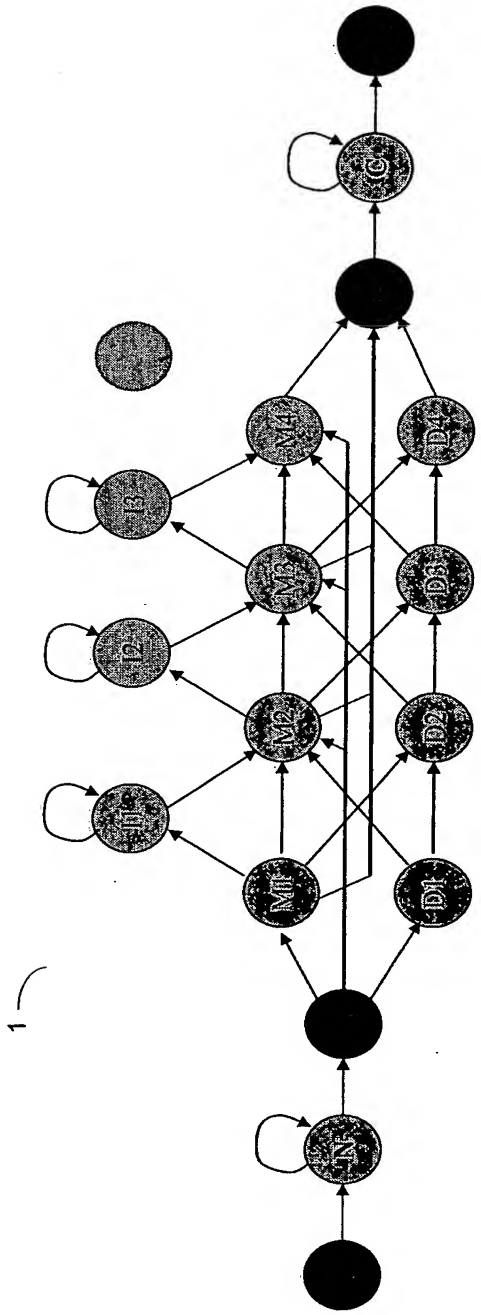


Figure 2

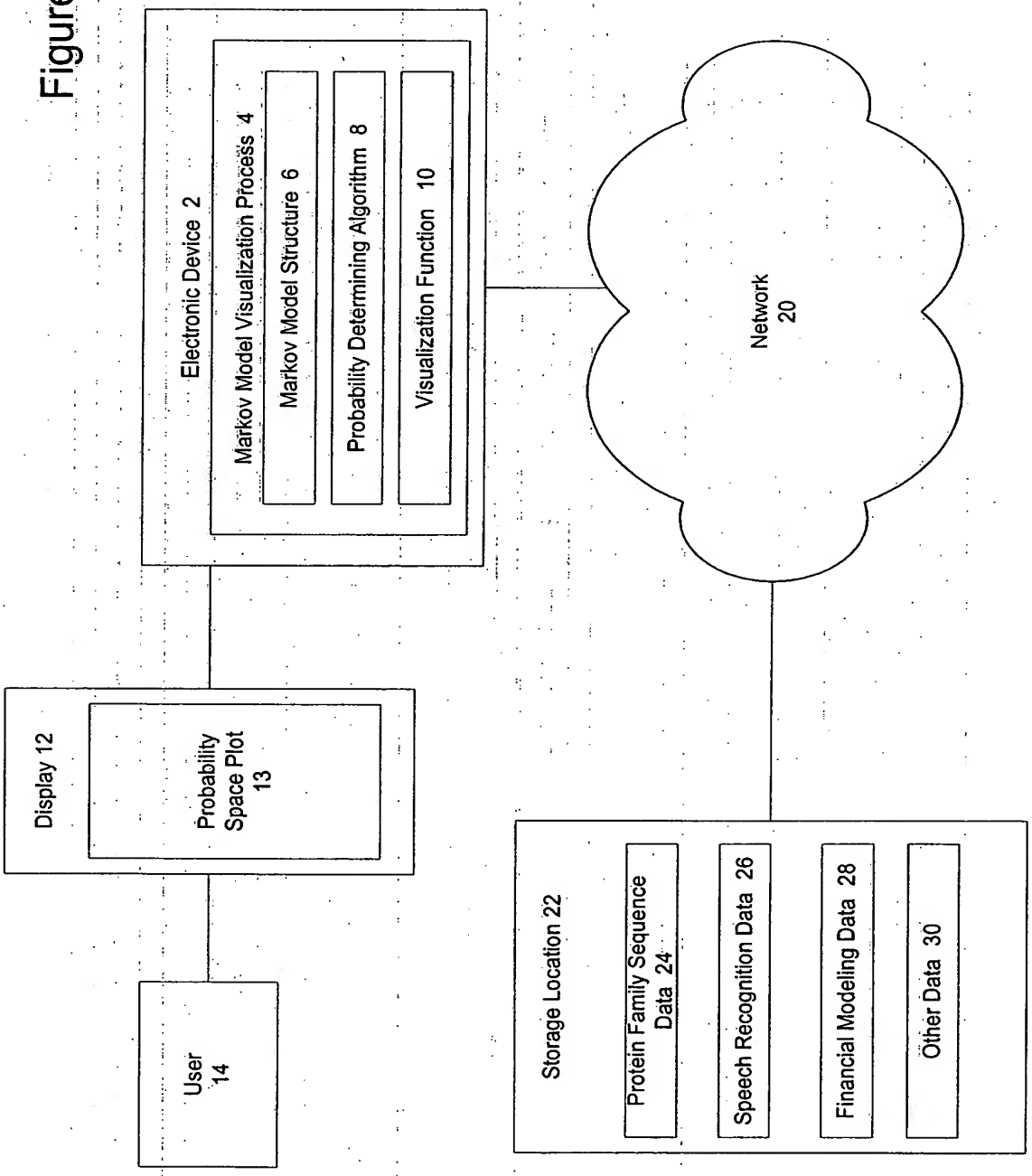

Electronic Device 2
Markov Model Visualization Process 4
Markov Model Structure 6
Probability Determining Algorithm 8
Visualization Function 10
Network 20
Display 12
Probability Space Plot 13
User 14
Storage Location 22
Protein Family Sequence Data 24
Speech Recognition Data 26
Financial Modeling Data 28
Other Data 30

Figure 3

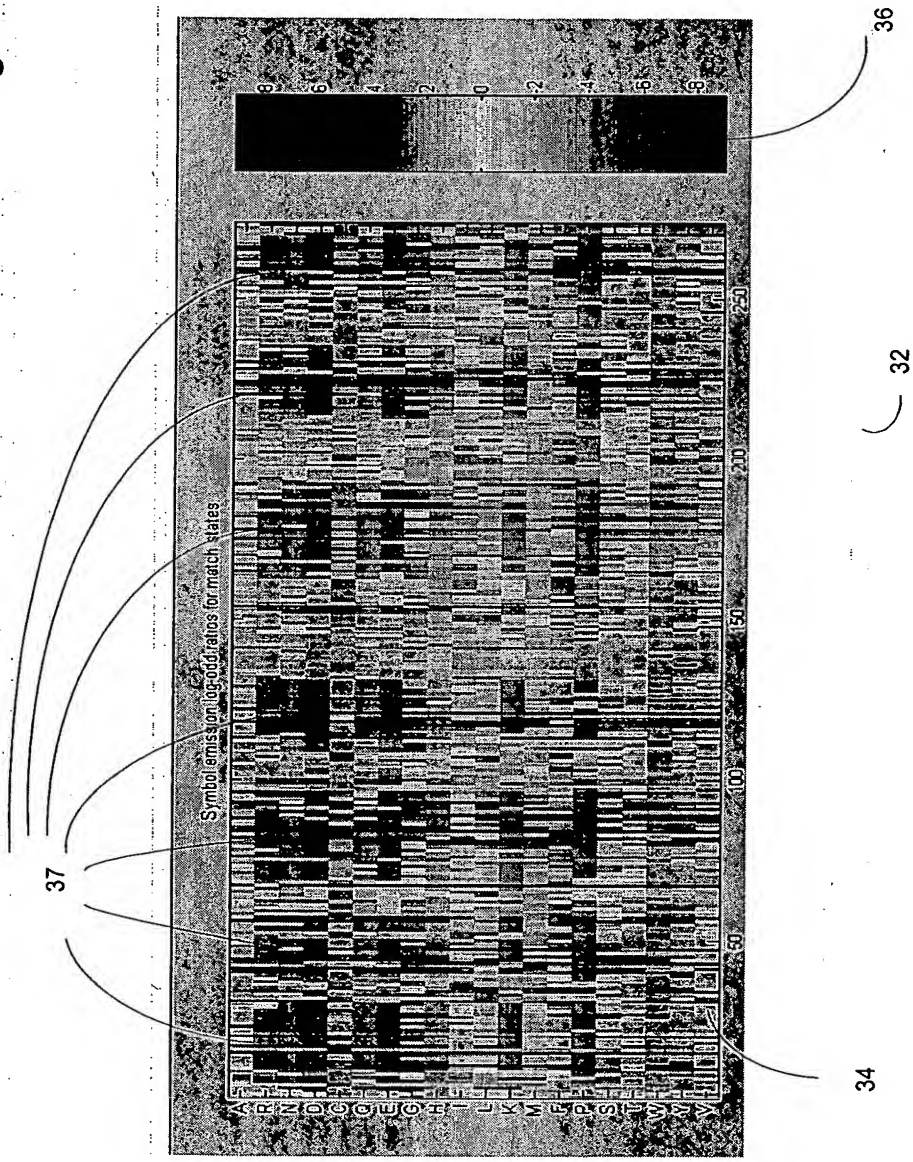


Figure 4

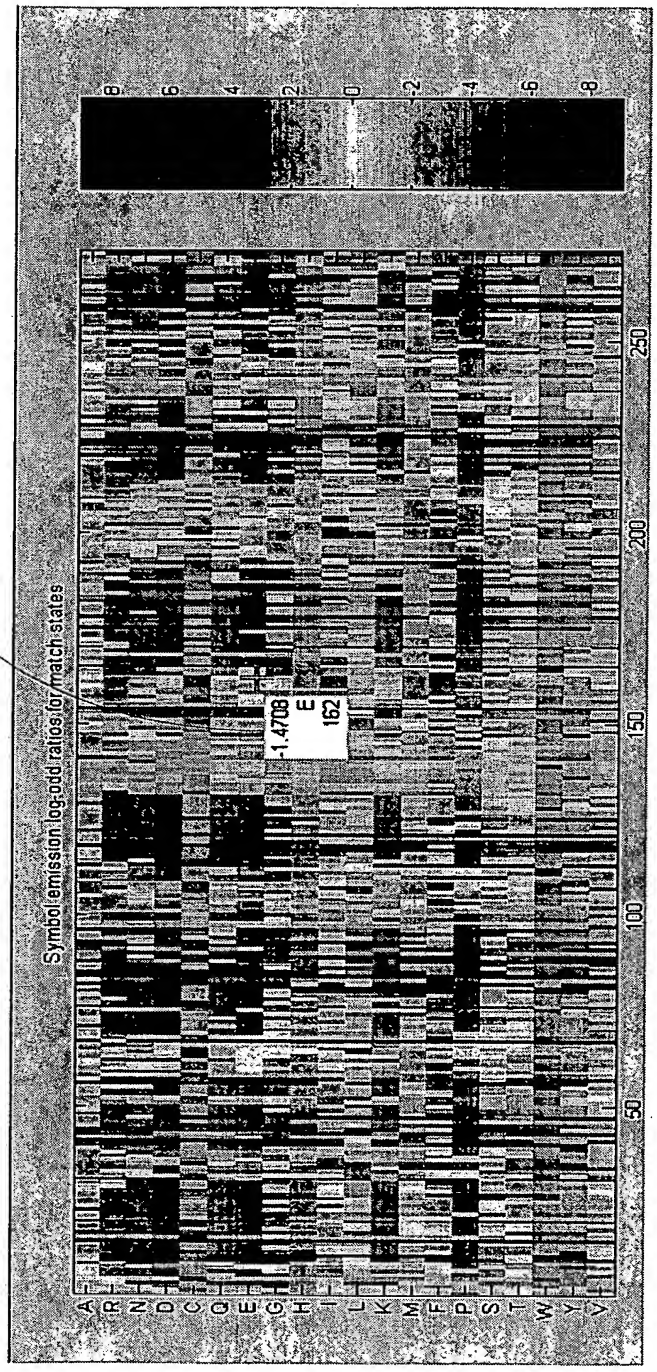

38
8 6 4 2 0 -2 -4 -6 -8
Symbol emission log-odd ratios for match states
-1.4708
E
162
A R N D C Q E G H I L K M F P S T W Y V
50 100 150 200 250

Figure 5

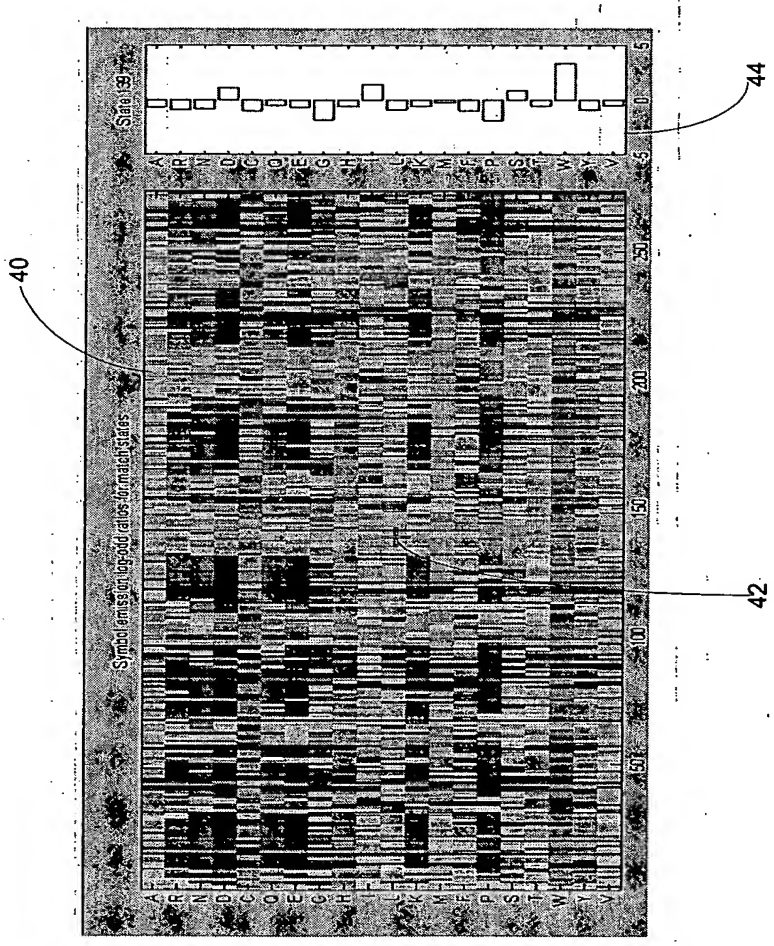


Figure 6

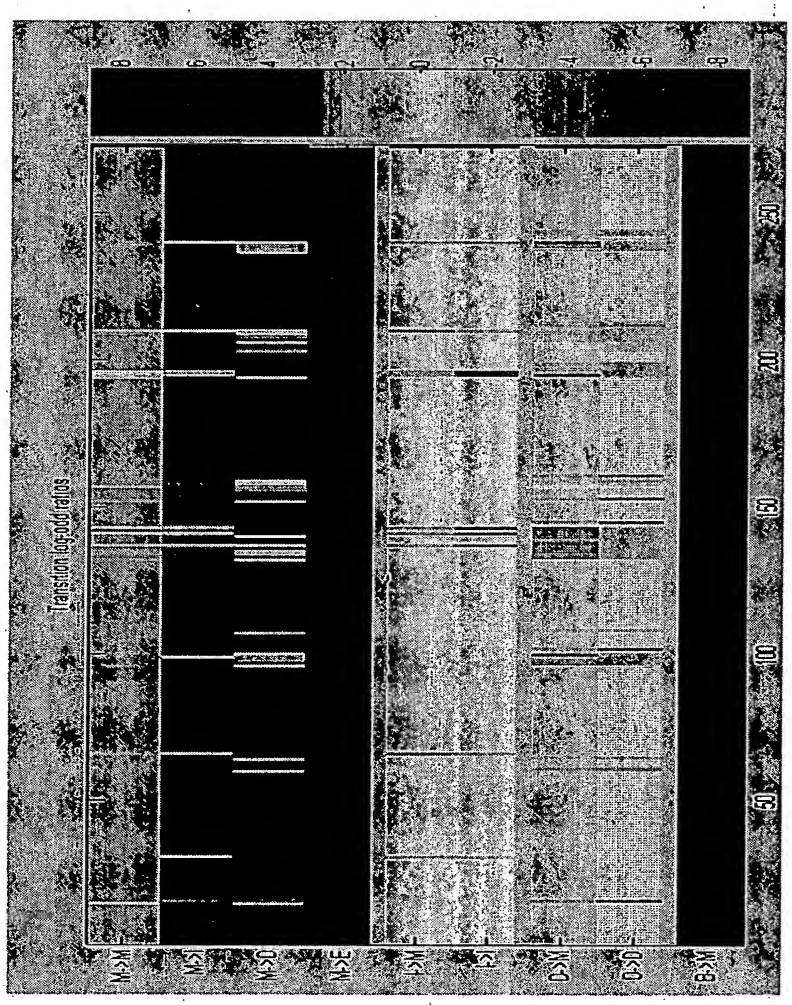
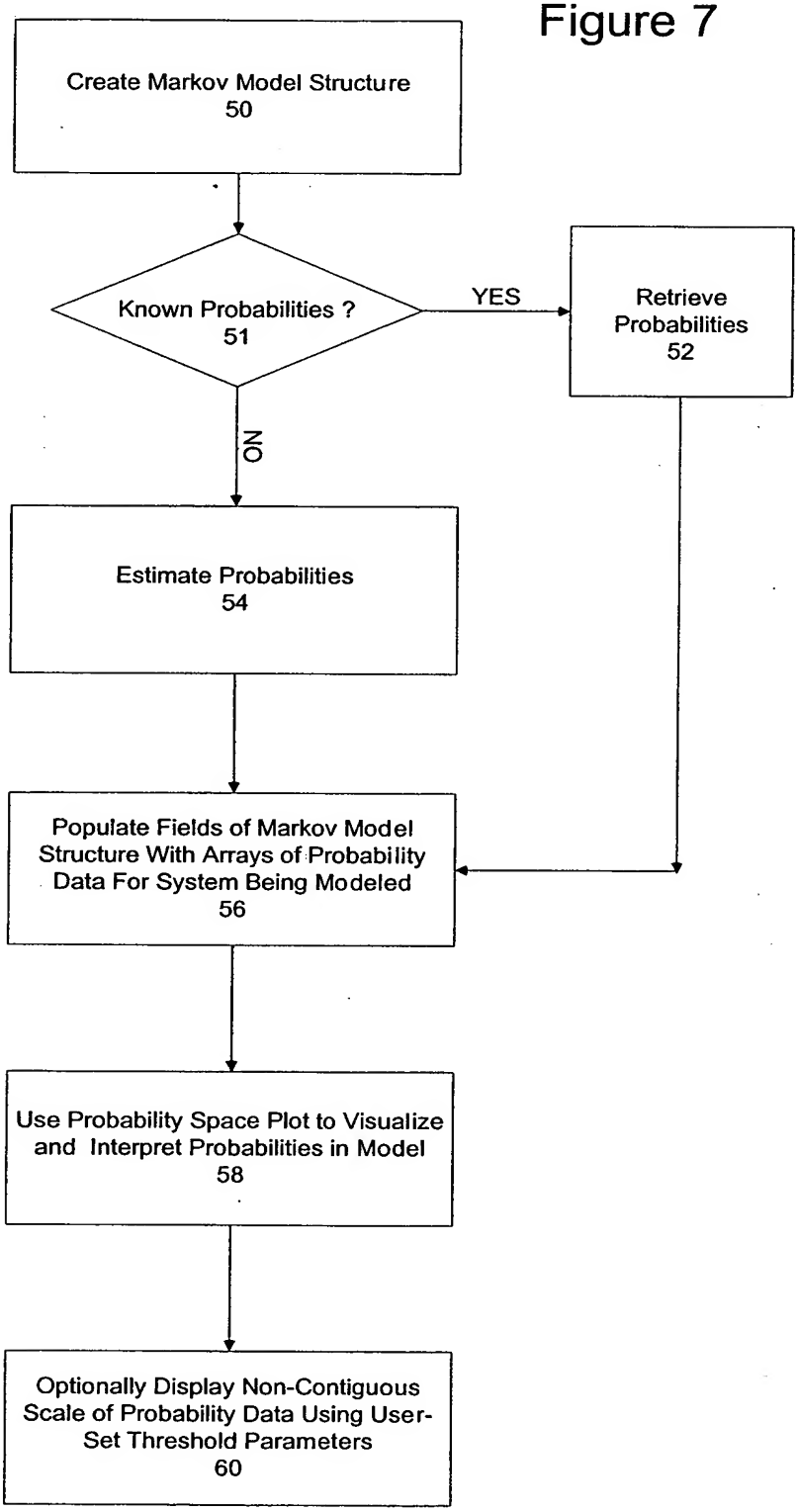


Figure 7


Create Markov Model Structure
50
Known Probabilities ?
51
YES
Retrieve Probabilities
52
NO
Estimate Probabilities
54
Populate Fields of Markov Model Structure With Arrays of Probability Data For System Being Modeled
56
Use Probability Space Plot to Visualize and Interpret Probabilities in Model
58
Optionally Display Non-Contiguous Scale of Probability Data Using User-Set Threshold Parameters
60